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A D D R E S S  
TO THE  
STUDENTS OF THE UNIVERSITY OF EDINBURGH

BY  
SIR ALEXANDER GRANT, BART.

D.C.L., LL.D., ETC. ETC.  
VICE-CHANCELLOR AND PRINCIPAL OF THE UNIVERSITY

DELIVERED ON  
28<sup>TH</sup> OCTOBER 1884



Published under the Sanction of the Senatus Academicus

WILLIAM BLACKWOOD AND SONS  
EDINBURGH AND LONDON  
MDCCCLXXXIV



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## PREFATORY NOTE

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THE late Sir Alexander Grant had been unanimously requested by the Senatus Academicus to publish this Address, which inaugurates the fourth century of the existence of the University of Edinburgh; and it was passing through the press when his deeply lamented death occurred on 30th November 1884. It is known to have been his intention to preface it with a statement to the effect that his expressions of opinion on controvertible topics were not to be supposed to commit the members of Senatus to the adoption of his views.

## A D D R E S S.

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GENTLEMEN,—

AFTER the events of last spring, I thought that I would not let this autumn go by without availing myself of the privilege of my office, and asking you to listen to a few words at the opening of a new session. It is not merely a new session that is now being opened, but a new era in our academical history. The University of Edinburgh has wound up the third century of its progress amid circumstances of great prosperity, and it has been most signally honoured on the occasion by the congratulations and compliments of all the most famous universities and learned bodies throughout the world. So now, we here present, as representing for the time the University of Edinburgh, have to inaugurate a new stage in its onward career.

We do so, gentlemen, amid the echoes of the Tercentenary Festival, which are calculated to fill our hearts with encouragement, and to furnish a grand incentive to the University to rise on the stepping-stones of the past to still greater heights. When we think of the unanimous response, of the most cordial and the most respectful character, which our invitations received from all the great foreign schools; when we think of that notable assemblage of Delegates—the greatest inter-academic and international gathering that has ever been seen—marshalled in their varied costumes within the Parliament House; when we think of those hundred addresses jointly testifying that the University of Edinburgh is held in high esteem, that the names of its great men are widely known, and that it is considered to have had a glorious past; and when we recall the eloquent words of so many gifted orators, who from various points of view brought their contributions of sympathy and of praise to decorate the occasion,—we cannot but feel that no university in the history of civilisation has ever been so highly honoured as ours. The feeling of patriotic pride which these testimonies may awaken in us is

not only not identical with, but it is the antithesis and antidote to, anything like personal self-glorification. As Dr Flint told us in that discourse, so worthy of the occasion, which he delivered in St Giles's Cathedral, these things "ought not to make us think more, but less, of our own small individualities." We are carried out of ourselves in reflecting upon the history of the institution to which we belong, and how from small beginnings it has risen, by the genius, the sagacity, and the toil of successive generations, to be a world-famous school. Its name and its fame have been handed down to us as a sacred trust. And thus the lesson of the Tercentenary is to remind us of our responsibility, falling upon students and office-bearers alike, to maintain and carry on the work of our predecessors. If we are told that our University occupies a noble position, then comes the consequence—*noblesse oblige*. And what are those complimentary addresses, which dwell on the achievements of the past? They are so many bills drawn upon the future, which we and our successors will be bound to honour.

Gentlemen, the memories of the Tercentenary surround us in this hall, and on that account I am glad to meet you here. The traditions of that Festival have become a permanent possession for all connected with the University of Edinburgh, and are the common property of those now joining the University, or who may join it hereafter. But there are many of those here present who took actual part in that memorable scene, when in this hall the students received and welcomed some of the most illustrious of living men. And to them I should say—You will surely cherish the recollection of that striking, that unique event. Long years hence, after I and my generation are passed away, when you too have become old and grey-headed men, you may quote for the edification of your grandchildren that maxim which was suggested to you in this place by M. Pasteur, "Whatever may be the career you embrace, set before yourselves an elevated aim, and cultivate a reverence for great men and great things." And then you may tell of a solemnity at which you were present in your youth, to which the heroes and demigods of science and letters came flocking from far-off lands, like the gods in old mythology to the nuptials of Peleus and Thetis. Each of you who is in a position to relate and describe the ceremonies and entertainments of the Tercentenary Festival, may also add, like Æneas, *Et quorum pars magna fui*.

That Festival would indeed have lost more than half its charm if it had missed the many contributions made by the students towards entertaining the guests of the University. And besides all that the students did towards filling up the nights and days with pageant and delights, I think that they contributed still more to the occasion by the spirit in which they entered into every meeting, and by the warmth of enthusiasm with which they greeted illustrious men. I believe that many of our visitors will have carried away with them, as their pleasantest recollection of Edinburgh, the memory of the generous recognition which they received from the students. One of

our guests, Professor Rivier, published in a Swiss Review his experiences of the celebration; and of the students of this University he stated: "They are said to be hard-working and orderly, but every one can testify to their expansive gaiety, always good-natured and decorous, during the Festival, and also to the practical ability of their Representative Council." I remember that a few years ago, in distributing the prizes at the University Games, I ventured to say that "it should be the ambition of the University of Edinburgh to be first among the Scottish Universities,—first in everything; first in science and literature, first in numbers, first perhaps in athletic competitions, but certainly first in the high tone of its students." Gentlemen, I thought that you realised my aspiration last April in the attitude which you displayed before all the world.

But what I want now to bring out and emphasise is, that the general body of the students of this University appeared at the Festival, and on other occasions during the year, no longer as a fortuitous concurrence of atoms, but in some respects as an organic body—self-organised; no longer inarticulate, but provided with the means of constitutionally expressing its ideas and its wants, and exhibiting, as M. Rivier observed, considerable *savoir-faire*, or practical ability. This is a most remarkable innovation. I hail it as the most important achievement of this year—as the first striking feature of the new epoch which we are now inaugurating. I look upon your new constitution, if I may call it so, as destined to have happy results, and to change in many respects the character of student-life—not only here, but in the other Universities of Scotland, who will certainly copy what has been done and will be done here.

When I speak of "student-life," I must not forget that one of the German newspapers pronounced that there was "no student-life at Edinburgh." "Why," it said, "they have not got a single student-song!" Gentlemen, if student-life consists in student-songs, with the usual German concomitants, I think that you may very well do without it. I would again quote M. Rivier, who said of the Edinburgh students that "they are by no means addicted to those costly babyisms which are the fashion in some of the universities of Germany"; and I would add that neither at Oxford nor at Cambridge—whose strong point is considered to be the social life of the undergraduates—have they a single student-song. And after all, you certainly have one song peculiar to this University, and a very good one too. You have got your *Alma Mater, te canamus*—the production of that delightful poet, Professor Maclagan, set to music by Sir Herbert Oakeley. I should have thought that you had also a good deal of student-life, at all events sectionally, in your various societies and clubs; and the biographies of eminent men who have been educated in this place, almost invariably tell of lifelong friendships which they formed at the University. Still, as regards the general body of the students, it has been truly said that hitherto "they have suffered

from the want of opportunities and accommodation for that intercourse, intellectual and social, which plays so conspicuous and beneficial a part in the undergraduate life of the universities of other countries."

A good deal, however, has been done of late years towards fostering corporate feeling and corporate life among the students in this place; and I cannot forbear from mentioning here one name which I have always held in honour—the name of Dr Charles Cathcart, who procured for the students their cricket-ground, and who has been unwearied in working for their welfare, while he himself has always set them an example of manliness and virtue. Dr Cathcart's name is worthy of being recorded in the annals of the University as the first originator of the movement for organising student-life. And the good work which he began has been taken up and carried forward in the happiest way by that distinguished triumvirate, Dr Orme Mason, Mr Fitzroy Bell, and Mr Sturrock, the founders and joint-presidents of the Students' Representative Council.

Of this institution all I can say is, that so long as it continues to be conducted as it has been since its outset, with judgment, tact, and a single-minded pursuit of what is good,—and I do not see why this should not continue to be the case,—the advantages which it will confer upon the University will be very great. Such a Council forms a valuable means of communication between the students and the Senatus: it implies, or ought to imply, a wise influence exercised upon the public opinion of the students by their own chosen leaders; it implies, or ought to imply, the infusion of reason into chaos. Therefore, I for one earnestly hope for the permanency of the Students' Representative Council. I trust that it may become as solidly grounded and as integral a part of the University as the Royal Medical Society, and that during the fourth century of the University it may play a conspicuous part, and continue without fail to exercise a beneficent influence.

For this end it will certainly require a local habitation. And the best form of this would be what the Council themselves have wisely proposed—a building for a Union Society of the students of all Faculties. The idea and the name of a Union Society are of course borrowed from Oxford and Cambridge. But at Oxford and Cambridge the Union is a mere supplement to collegiate life. In Edinburgh such an institution would be to some extent a substitute for that collegiate life which here has no existence. A Union Society here would be a meeting-point and place of daily resort for students otherwise scattered and isolated through the city; and it would surely be an advantage for a student coming for the first time as a stranger to the University, to find such a common centre hospitably awaiting him.

To effect this desirable object, to establish an Edinburgh University Union Society, large funds are necessary. The Prytaneum of 3000 students, with debating-hall, gymnasium, reading and writing rooms, committee-rooms, and other appur-

tenances, must necessarily be a large building, which with its site would cost no less than £15,000; and of this sum I believe only about one-fifth has been as yet provided. But the scheme is such a good one, and so well worthy of realisation, that I think it only requires to be made generally known in order to receive the necessary encouragement and support. I think that many good friends and benefactors of the University, when their attention is called to it, will be glad to do a good turn for the student in his lonely lodgings by giving him the means of enjoying the society of his fellows. The scheme is one not only for increasing the amount of enjoyment among the ranks of the students, but also for increasing their educational advantages, by promoting the mutual play of mind, and developing the graces of courtesy and refinement. I hope to see with my own eyes the building of the Students' Union set up as a memorial of this remarkable year, and I hope to see the Society itself in full working, as the beginning in some respects of a new order of things.

There is another piece of academic architecture,—for so I think I may call it, though its purposes are perhaps not directly scientific or literary,—which I have long been wishing for. It is of a less grandiose and costly character than a Students' Union, to which indeed it would be a sort of appendage; and therefore, being a comparatively small thing, it might be obtained with a comparatively small effort. In explaining what this object is, the dignity of the present occasion compels me to resort to a Johnsonian paraphrase, and to say that I desire to see erected along the south side of the University New Buildings a range of areas or courts suitable for the carrying on of an exercise which is usually denominated by the number of the fingers on the human hand. To place facilities for this exercise within reach of the students between their class-hours, would be a salutiferous, and, I think, not an unwelcome gift.

But to return to the Students' Representative Council. I have been much struck by a happy thought at which they have been working during the past month, and with which they are still engaged. This is the formation of a Students' Directory, to contain as far as possible the names and addresses of all the students attending the University during the present session. The need for such a Directory has been often felt. I believe that sometimes a student's friends coming to Edinburgh to see him have been baffled in the attempt to discover his residence, and that the students themselves are frequently put to inconvenience by having no guide to each other's addresses. The success of the plan for providing a Directory must of course depend upon the co-operation of those for whose benefit it has been devised. And I hope that all you gentlemen here present will render loyal assistance to the Representative Council, and furnish the required information, and persuade your friends to do the same.

This project of a Students' Directory is a sample of the thoughtful spirit in which the Council work to supply the wants of the students. May they be rewarded by the

gratitude and allegiance of their constituents! There is one thing which may be looked for from the Council, if this institution continues to be like what it is now—and that is, that it may gradually introduce a new and good tradition with regard to some of the student-customs. In all universities tradition has great force in determining collective conduct. And there are unfortunately such things as traditions which dictate to a student the duty of doing that which his own natural judgment would never have suggested to him, but would rather have led him to eschew. Such traditional follies are sometimes of long, sometimes of very short duration. Several such have been successively renounced in bygone days in this University. During the seventeenth century there prevailed for a long time the custom that on the 10th of March a football should be thrown into the class-room of the first-year students, which of course led to riot and destruction. At last, in 1697, the senior students were prevailed on to sign a paper in which they declared their “willingness,” as they said, “to have this abominable custom for ever banished from the College, and to hand up for expulsion any one of their number who should attempt throwing in of the said ball.” After that, the practice was entirely discontinued, and was never heard of again.

Subsequently various reprehensible customs—such as duelling, wearing hats in class-room, and other absurdities—had their run, and were abandoned. During the present century the idea arose that whenever snow lay upon the ground it was to be the signal for a town and gown riot; but with regard to this, also, good sense has prevailed, and it ranks among the barbarisms of the past. The latest and most disgraceful folly—most dangerous in its possible consequences, and meriting the heaviest academical penalties—has been what was called “the students’ night” at a theatre. This, I hope and believe, has been for ever abandoned. There is one other tradition that lingers here and elsewhere; what shall we say of it? I refer to what might be called the carnival tradition in connection with Rectorial addresses. *Dulce est desipere in loco*; but the great matter is the *locus*. It may be very appropriate for the modern Romans to go mad in the Corso on Shrove Tuesday and pelt each other with comfits, as our students do with peas; but it may well be questioned whether the right time and place for students’ madness, and for a carnival which often shows no respect for anything human or divine, is when some great statesman has come to impart his thoughts to those who have chosen him as their Rector, and to give them a specimen of his mind and of his eloquence. That the occasion should be so used seems to be a confused survival of the practices at political elections; the Rector’s address appears to be treated as a hustings speech. But the Lord Rector does not come to speak as if from the hustings. The contest is over before he arrives; he appears as the elected member visiting his constituents or adherents, and even political etiquette demands that he should be allowed to address them without interruption. By all means let

us have hilarity and wit at general meetings of the students. But what is "wit"? Aristotle defines it as "chastened insolence." And if the insolence be not chastened, it is no longer wit, but remains simple insolence, which is a very different thing. It must be confessed that on several occasions, owing to the good influence exercised by students of light and leading, the carnival spirit has been restrained within proper bounds, and your present highly-esteemed Lord Rector—Sir Stafford Northcote—has nothing but praise to record of the treatment which you have given him. But if the carnival tradition remains in this University like a caged wild beast, it can never be depended on; and there is always the apprehension that at some moment it may break out into dishonourable excesses. The great hope is, that the manly temperance of the Representative Council may so moderate and harmonise this tradition as to turn it into something graceful and worthy of the Edinburgh students. And then your successors—or why should not I say "you yourselves," gentlemen?—will look with contempt upon bygone barbarisms. May the expansive but decorous gaiety described by M. Rivier always continue among you! What we ask from the students is, that on all public occasions they should exhibit themselves as they did at the Tercentenary Festival.

Gentlemen, in the new era which we are now entering, the University will not remain exactly the same as it is now. In some respects its system will be changed, so as to afford to its students even greater advantages and opportunities than they at present enjoy. The changes to which we have to look forward were well indicated by Dr Flint in his noble Tercentenary Discourse, and I will quote his words: "The Faculty of Arts," said he, "has to reach forth unto such things as securing that its entrants be duly prepared, that certain great departments of thought and learning cease to be neglected, that justice to the various studies be obtained through giving freedom in the choice of subjects, and that sufficient provision be made for furthering high special attainments. The Faculty of Medicine has before it the simple but pressing problem of the completion of the New Buildings, and what further problem I know not, save how to go on prospering as it has been doing. The Faculties of Law and Theology both need great enlargement, and the latter perhaps organic changes. This city itself has within it the materials out of which, if wisely used, there might be built up within the University, to the great honour and profit of the nation, a magnificent school both of Law and Theology."

Gentlemen, on this text a long sermon might be preached,—nay, large volumes might be written. But I shall content myself here with a few brief remarks. You all know that the necessity of some change in the system of the Universities of Scotland has long been recognised, and that a Bill for the Better Endowment and Improvement of those Universities has for two years been before Parliament. Unfortunately, owing to the exigencies of party-warfare to which the immediate wants

and interests of the nation have been of late to a considerable extent postponed, this Bill has twice been crushed out of existence, like some poor flower under the charge of opposing squadrons. And who can tell now when it will be reintroduced, not to say carried? Ultimately, however, this or a similar Bill will become law, and it will afford scope for improvement in the University, and its results will stamp the character of our fourth century. The Universities (Scotland) Bill of last session was, taken all in all, a very good Bill, but not a perfect Bill,—and for this reason, that it was not, so to speak, a holograph; it was not of one authorship, but a composite production made up of separate contributions from distinct sources—namely, from the Lord Advocate's office and from her Majesty's Treasury. And I would compare these two threads in the Bill to the Rhone and the Arve running together distinct in one bed,—“a clear stream flowing by a muddy one.” Almost all the provisions in the Bill devised by the Lord Advocate were, I think, admirable, but they were marred by clauses which came in from the Treasury. These of course were not the work of the Chancellor of the Exchequer; there was no question of high finance worthy of his attention. They are to be attributed to the Secretary of the Treasury, doubtless inspired by the subordinate and permanent officials. And it is perfectly clear that the idea of these officers was to seize the occasion and make a good bargain with the Scottish Universities, and so to save the national finances, and at the same time to be rid of all trouble with regard to those Universities for the future.

What I complain of is the principle which the Treasury attempted to introduce into the Bill. This principle was, that from henceforth University education is to be cut off from any additional State support; that, whatever may be the unforeseen developments of science, while other nations go on richly endowing its prosecution, not a penny more than a sum now fixed is to be voted for its encouragement in Scotland, and that the sum fixed for all University purposes in this country is to be about one per cent of the present educational vote for the United Kingdom. This, I say, is a question of national policy, and I submit to you whether a question of national policy should be decided by a side-wind in this manner by the subordinate officials in her Majesty's Treasury. There were also special clauses in this Bill which showed the spirit in which these officials worked; I mean the clauses for transferring the Observatory and the Botanical Garden in this city to the University of Edinburgh. These clauses were irrelevant to the Bill, and they were evidently introduced, not from any regard to the interests of the University, or to the interests of science, or to the interests of the citizens of Edinburgh, but with the object of killing two birds with one stone, by putting a stop to all future demands on the Treasury, not only for the Universities of Scotland, but also for the Observatory and the Botanical Garden of the Scottish metropolis. Gentlemen, perhaps when we have a Minister for Scottish affairs,

with a seat in the Cabinet, our national institutions will no longer be treated so contemptuously.

The Bill contained another financial clause, which I do not attribute to the Treasury, because it did not reduce or limit the Parliamentary vote, but only applied to its distribution. I regard it as the one serious *lapse* in the Lord Advocate's measure, that he consented to provide that no part of the additional grant from the State should be allowed to go to augment the endowment of any of the Theological Chairs. By all means make the Theological Chairs undenominational, as this Bill proposed to do,—for a University should be above denominational distinctions and separations. But when that has been done, when these Chairs have been opened to the best learning and ability to be found in all the Protestant communions, do not go and mar all this by starving the Chairs, and making academical pariahs of them, so that to eminent scholars they will be no object of attraction. And let it not be too hastily laid down in these days that the State has no concern with Theological science. Surely rather the opportunity should have been seized to build up a great national school of Theology here, such as Andrew Melville devised for Scotland three hundred years ago, though to this day his ideas have never been carried out.

The Lord Advocate's Bill provided for the improvement of the Scottish Universities by means of an Executive Commission : and if we were to judge by analogy from the results of the last Executive Commission, which, under the wise guidance of our present Chancellor, gave us freedom, order, and prosperity, we might look forward with sanguine confidence to the work of a new Commission ; but the problems which await the Commissioners to be appointed now are perhaps more complex, more delicate, and more responsible than any of those dealt with by the Commissioners of 1858. Look, for instance, at the difficulty of the following two problems : *First*, How to rearrange the rules of graduation in Arts and in Science, so as to give a wide choice of subjects to the candidate, and to open a number of alternative avenues to a degree, and yet to preserve a perfect equality as to ease and difficulty of access, and prevent some subjects from being unduly favoured, and others doomed to comparative neglect ? *Second*, How to adjust with perfect equity a fee-fund, so that the interests of individual Professors should no longer, as hitherto, be isolated, but should be more bound up in the corporate prosperity of the University ? These are two of the most important problems which an Executive Commission appointed on the lines of the Lord Advocate's Bill would have to deal with. But any one who is at all acquainted with the subject must see how great is the intrinsic difficulty of each of them. Still, they both have necessarily to be faced. They are problems worthy of the strongest and the wisest heads, but they can hardly be dealt with prudently unless there be in the Commission a strong infusion of actual knowledge and experience of the working of the Scottish Universities. And

I would venture to utter two warnings to the Executive Commissioners, whoever they may be, and whenever appointed. In the first place, it would be by no means advantageous to Scotland—nay, it would be like injuring one of the eyes of the nation—if the Arts Faculties in the four Universities were turned entirely or mainly into schools of science. In the second place, history teaches us, especially with regard to the University of Edinburgh, that its past success and glory have been entirely due to the *personnel* of its Professoriate. Its future hope must depend upon keeping up the succession. Therefore any measure, or set of measures, which may tend to fritter away the value, the dignity, and the desirableness of the Professorships, so as to make them no longer objects of ambition for men of the highest ability, will certainly lead to the degeneration of the University.

One of the points at which a Commission would have to aim, is one of those which Dr Flint pointed out—namely, “the furthering of high special attainments” in the Arts Faculty, towards which our present degree-system in Arts does next to nothing. But I am happy to say that, without waiting for a Commission, we have already within the University a supplement to the degree-system, which stimulates, by lucrative reward, high special attainments in each of the great subjects of University teaching. I allude, of course, to the Vans Dunlop Scholarships, brought into operation within the last few years. These scholarships have already raised the high-water mark of attainment in every department. And Dr Vans Dunlop must be held to have been one of the greatest and wisest of the University’s benefactors.

However much the new systems to be introduced here may be theoretically better than the old, the real question will still be, What is the quality of the work produced under those systems? If for universities there were to be payment by results, I wonder what the criterion of results would be? Surely it ought not to be the marks awarded by a Government examiner to the amount of cram which the students on a given day might be able to produce? Rather the results of a university should be taken over a considerable period of time—say not less than half-a-century—and they might be estimated to consist,—(1) in the great mass of fairly-educated men contributed to the nation, not destined perhaps to personal distinction, but rendering good service to the community in the various walks of life; (2) in the number of those *alumni* who are sent forth to rise to eminence in the professions or in the State, and to become leaders of men, beacons of light, makers of history; (3) in the discoveries, whether in external nature or in the mind of man, made within the university itself; (4), and not least, in the philosophy of the university as distinguished from its special researches and teachings, and the influence of that philosophy upon the world.

Of these four classes of results, the first two are obviously in the hands of successive generations of students. I have spoken previously of the collective life and conduct of

the students as a body. This, though it has its own importance, is relatively superficial and insignificant when compared with the greatness of the issues dependent on the work and life of each student as an individual. On the one hand, if each individual here is inspired with an honest desire to do well in the University, the general body is sure not to go very far wrong. On the other hand, good customs and social institutions in the body are but favourable conditions for the individual—happy circumstances if they be present, but which a vigorous soul may dispense with, pushing its way without deviation towards its self-chosen goal. I need not remind you of the opportunities which the University offers to all who can take full advantage of them. As it was said that every soldier in Napoleon's army carried the baton of a field-marshal in his knapsack, so each student coming to the University brings with him a number of potential and hitherto unsigned commissions—commissions of professorships, sheriffships, judgeships, titles to the highest posts that the Church, the State, Medicine, Science, and Literature have to offer,—so open is the career that the University puts before you, so many diverse ladders does it set up. It is a small thing to say that the appointments within the University itself are the natural inheritance of its students. Every previous Principal here, with the exception of Rollock, was originally a student of this University; and down to 1838, when Kelland was appointed Professor of Mathematics, there was not a single Edinburgh Professor in any Faculty who had not been educated in a Scottish university. It is interesting to read how Edward Forbes, the brilliant naturalist, deliberately proposed to himself, while a student, to become the successor of his great teacher Jameson, and how, before his premature and lamented death, he achieved the purpose of his youth. Many, doubtless, have been the cases of such secret resolve in the minds of students, though not recorded by history. Youth is like the "big wars" spoken of by Othello "which make ambition virtue." In youth ambition is almost identical with virtue. It is very different from the quality which goes by the same name in after-life; for it is not purely selfish. A young man strives to succeed not merely for himself, but for the happiness which his doing so will give to his family: thus his ambition is hallowed. And it admits of no unworthy means, no time-serving or political chicanery: it is restricted to honest, persevering effort, αἰὲν ἀπιορτεύειν—to excel in the class-room, in the debating society, in the competition. And this effort brings its own exceeding great reward. For after all, the chief good for a man in this world is the consciousness of having developed and employed the faculties allotted to him, and of having done his duty.

Another class of the results of a university consists in the discoveries made by its Professors, or by its students working in the laboratory or reflecting upon the facts of which they are possessed. Discoveries of the first magnitude are, I suppose, few and far between, and it would be unjust to test a university, as perhaps Lord Bacon

would have done, solely by its discoveries. They seem to come by a "divine chance"; they are like the inspirations of genius, the revelations made by Providence, in its own good time, through great minds, to the world. Yet our University in times past would fairly bear being submitted to such a test. The discovery of carbonic-acid gas and of latent heat by Joseph Black, of nitrogen by Daniel Rutherford, of the sensor and motor nerves by Charles Bell, of many of the laws of optics by David Brewster, of our distance from the fixed stars by Thomas Henderson, of the nature of glaciers by James Forbes, of the nucleus of the cell by John Goodsir, of the application of chloroform by James Young Simpson, and of the antiseptic treatment in surgery by Joseph Lister,—are all titles of honour to the University of Edinburgh. The very mention of many of them shows that they were made during the infancy of science, when the field was waiting for the reapers, and not so cut and garnered as it has since become. But, on the other hand, they were mostly made when the University had no laboratories for its students, no systematic experiments, none of those instruments for torturing Nature, and forcing her to reveal her secrets, with which we are now richly provided. Therefore there seems to remain a good hope that in the future which is before us discoveries of hidden things may yet be vouchsafed to ardent minds in this place—discoveries not only tending to the material welfare of mankind, but also to man's just comprehension of the universe, and of his own position in it.

I have omitted to mention one discovery made in this University at the end of the last century, which seems to me to be a striking contribution to natural theology or the philosophy of the universe. I refer to the discovery by Charles Hope, Professor of Chemistry, of the remarkable property which water exhibits of attaining its maximum density at a little over thirty-nine degrees Fahrenheit. On first hearing this, most people would regard it as the announcement of a fact in nature, and nothing more. But in reality it is the announcement of a strange break in the laws of nature, made to all appearance for a special purpose. For all other fluids go on contracting and increasing in weight as they get colder. With regard to water alone, this law does not hold good. And what is the result? Why, that cold water from the temperature of thirty-nine degrees downwards, and after it has become ice, is lighter than warmer water, and thus remains on the surface; whereas, if the law attaching to other fluids held good with regard to water, the top water chilled by the air would always cool and fall down to the bottom, until the whole of a lake or sea became of a freezing temperature, when it would become a solid mass of ice. Thus, as Sir Lyon Playfair has pointed out, "not only would vegetable and animal life be destroyed, but the heat of the warmest summers would be insufficient to melt such vast quantities of ice." When we come upon this discovery, and detect nature, so to speak, interrupting her own laws for the salvation of a great part of the earth and those that

inhabit it, we may well ask, Who shall talk any longer of blind inflexible laws of matter governing the universe? who shall exclude teleology, reason, providence, from the cosmical system?

In the addresses which we have received from foreign universities, we find in some cases that appeals are made to us to aid in withstanding the materialistic and pessimist philosophies which are to so great an extent oppressing the continent of Europe. These are appeals to the philosophy and to the attitude of the University of Edinburgh in the future. Who can tell what the course of human thought in another fifty years may be? But I see no indication in the present, and no reason to expect in the future, that the University of Edinburgh, on its philosophic side, however much it may admire the fruitful methods of Darwinism in its earlier phase, will accept the mechanical cosmism of Darwinism in its extreme developments, or its clumsy and infelicitous attempts to evolve reason out of matter;—nor, again, that our successors will consent, in obedience to the unwholesome dictates of a few jaundiced spirits, to renounce all hope of human happiness in this life or another. These philosophies assume an attitude as if the last word on the greatest questions had been spoken. But what a want of imagination is this! Probably the last word can never be spoken, in a world where we know in part, and see as in a glass darkly. But in the meantime, metaphysics, so far from being discarded as a scholastic dream, seem to have a new future opened to them; they are now looked up to and called upon, and I read in a German book that “the great necessity of the present day is an organic fusion of idealism with the results of modern physical science.” Should this be carried out, metaphysics will justify their name, as the science that comes after physical science: thus will they take the place assigned to them by Aristotle as the culminating point and crown of the other sciences. And so it may come to pass that here or elsewhere it may be given to metaphysics to justify, or even to demonstrate to the reason, those beliefs which we now hold to by faith, and to give assurance that the glorious increase of physical knowledge is not destined to be a mere increase of sorrow; that the hope of the Christian is not an idle dream; that mankind is not left fatherless, with no answering heart in the void abyss.

Such is the great province for philosophy in the opening century. And at the close of that century, I trust that some one may be able to echo the words made use of by Count Saffi in this hall, when he said: “The grand, the noble, and the inspiring feature which struck me in the celebration of your Tercentenary, was the harmony, the union,—the intimate union,—between religion, patriotism, and science, which has presided over all the proceedings. I am happy to be able to take home to my countrymen your example, and to try and convince them of the necessity of the union to

which I have alluded—the union of the moral element with the scientific and the merely intellectual in the work of life. My faith in the Eternal Ideal is comforted, is confirmed, by seeing before me this gathering of young men, who represent the hope, the promise, and the force of a noble future for the present generation, and for many generations to come.”

Gentlemen, in conclusion, let us wish all that is good for the University of Edinburgh during its fourth century, and let us each resolve to do what in us lies to promote its welfare and to contribute to its honour.











































































